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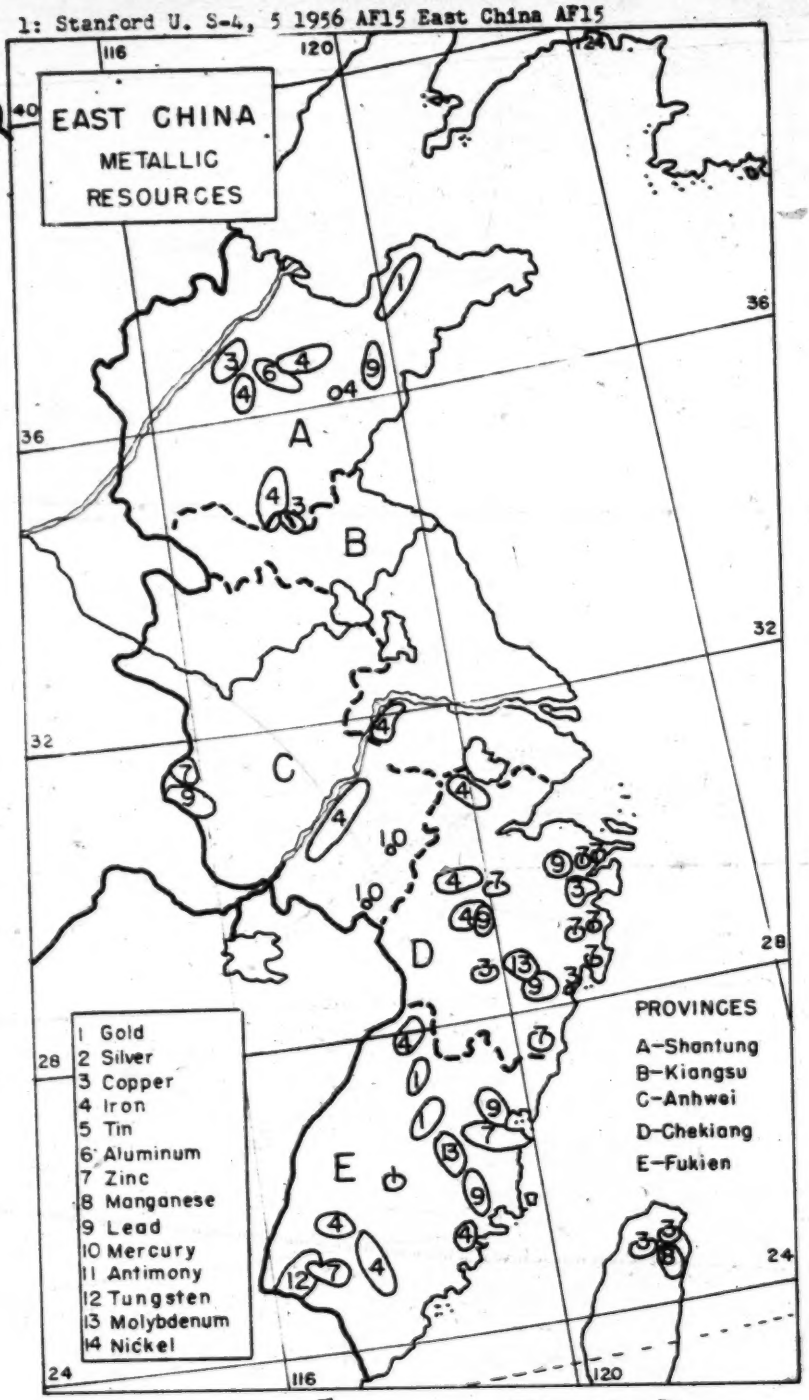


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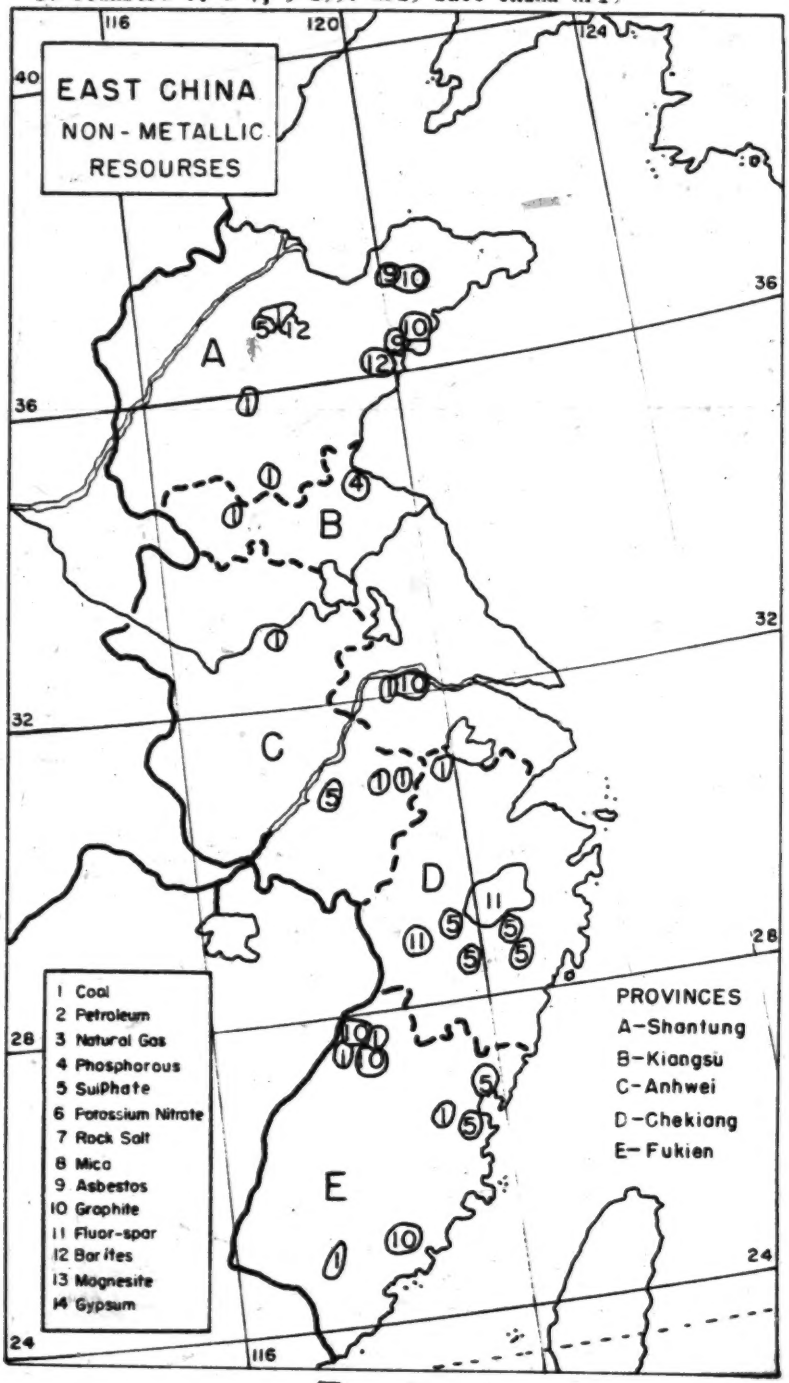


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178 of Chinese industry to western China was a foretaste of what might occur again with even greater devastating effect in view of the destructive power of modern weapons and the disappearance of foreign concessions and settlements which, even during the war with Japan, served for a time as a haven of private business. The apparent validity of this military consideration was given more support when industries in Shanghai were seriously harassed by the Nationalist naval blockade and air raids in 1950. Moreover, once industrial dispersion has become the watchword, and self-sufficiency has taken precedence over cheap imports, there is all the more reason to establish new industries at places close to sources of raw material supply. It is in this respect in particular that the relative scarcity of mineral resources in East China must be considered.

## II. MINERAL DEPOSITS AND FUTURE DEVELOPMENT

135 It is noteworthy that in spite of its relatively highly developed industry, East China is extremely poor in iron ore reserve. On the basis of 1948 data, the region's iron ore reserve amounted to no more than 227.9 million tons or about 12 per cent of the total reserve of China proper (excluding Manchuria)

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●135 and less than 4.2 per cent of the then estimated total reserve of 5.4 billion tons for the Chinese Mainland as a whole.[1] Since Communist China's total iron ore reserve is now reported to be as high as 10 billion tons,[2] and since new discoveries have been made primarily in other regions, the relative importance of East China in iron ore deposits is presumably even less. This phenomenon is all the more striking if we bear in mind that Kiangsu, which was industrially the most advanced province in pre-Communist China, is also one of the least favorably endowed provinces as far as iron ore is concerned.

What is true with respect to iron ore is equally true with respect to coal reserves. The East China Region, according to one estimate, accounted for no more than 3.2 billion tons out of an estimated total of 454 billion tons for the entire Mainland.[3] Taking into account new discoveries in the Huai-nan

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1. Bureau of Information, Executive Yuan, Kang-t'ieh [Iron and Steel], Nanking 1947, pp. 6-15; Geological Survey of China, General Statement on Mining Industry, Chungking, 1944, 7th issue, pp. 88-89; Chung-hua Nien-chien [Chinese Year Book], 1948, Vol. II, p. 1,568.

2. Sun Ching-chih, Chung-kuo Kung-yeh-hua Ti Ti-li T'iao-chien [The Geological Conditions of the Industrialization in China], Peking, 1955, p. 16.

3. Yuan-li Wu, An Economic Survey of Communist China, Bookman Associates, New York, 1956, p. 26.

135 coal fields (Anhwei Province), but a proportionately even greater upward revision of the country's over-all coal reserve, now put at 1,000 billion tons, the relative share of East China has declined even further.

The lack of both coal and iron is further aggravated by scarcity of other mineral deposits in East China. In fact, with the exception of bauxite, which is found in large quantities in both Shantung and Chekiang, magnesite, which is found in Shantung, and manganese, available in Fukien in relatively large quantities, the East China Region is notably deficient in mineral wealth. As for other industrial raw materials, salt is readily available. On the other hand, even in the case of such a common crop as cotton, the Shanghai mills are completely dependent upon imports from other regions or, as was often the case in the pre-Communist period, from abroad.

135 178 On the basis of the paucity of mineral and other resources, as well as other considerations enumerated above, it is not surprising that among the construction projects reportedly contemplated or under way under the first Five-Year Plan, for the whole region, large coal mining projects appear to be restricted to the Huai-nan field in Anhwei and Po-shan in Shantung while development in the production of pig iron seems to be confined to the

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135 178 Ma-an-shan plant in Anhwei.[4] As for other industries, the Five-Year Plan seems to give scant attention to East China with the exception of Shanghai's machinery industry, which again is largely a case of making full use of existing facilities and the local skilled labor.

## III. PRESENT STATUS OF SHANGHAI'S INDUSTRIES

178 Lest we should underestimate the present industrial importance of Shanghai in the light of what has been said above, attention should be called both to the degree of industrial recovery in Shanghai which has been reported by the Communists and the status of some of the city's industries.

464 According to the Shanghai Economic Weekly of February 5, 1953, using 1950 as the base year (100), for 1952 the index of the number of workers employed in Shanghai's light manufacturing industry stood at 138, that of electric power consumption by the same industrial group was reported at 153, and the 433 volume of sales was 199. Another indication of the degree of industrial recovery in

4. Cheng Chu-yüan, Chung-kung Wu-nien Chi-hua P'ou-hsi [An Analysis of Chinese Communists' First Five-Year Plan], Hong Kong, 1955, p. 45.

2: Murphy G-4 (no date) 1953 AF15 East China AF15



*Raw Materials*

135 489 The basic industrial raw materials lacking in its immediate hinterland are Shanghai's major problem after the disadvantages of its site. Coal must come from north China, Japan, or Indo-China. Finished steel is largely imported (from Japan and the United States), as are petroleum products, sulfur, rubber, copper, and all other nonferrous metals except antimony and tungsten, which are supplied from the metaliferous belt running through Honan, Kweichow, and Yünnan. Shanghai is industrially out of gear with the rest of China, and in the absence of an exploitable local resource supply maintains its industrial position on imports from kindred economies overseas. China supplies the market, and the labor, for Shanghai's industrial production, both factors of considerably more locational importance for manufacturing in general than raw materials alone. Closely oriented to major ocean routes, Shanghai can economically produce goods whose raw materials must be assembled from great distances, since the cost of sea transport, especially for these bulk commodities, is a relatively minor item in total costs of production. From the Chinese hinterland, the Yangtze also transports to the city at low cost industrial raw materials produced by agriculture within the river basin: cotton, silk, vegetable oils and tallow, hides and skins, hemp, tea, bristles, wheat, tobacco, and eggs.

Aside from steel (which until recently had not been economically produced from ore anywhere in China proper), industrial machinery, and petroleum products, admittedly large cost-items in its production, Shanghai has not suffered industrially to any great extent from the local absence of resources. The city's transport connections as outlined in this chapter have been largely responsible for this, and have made possible an industrial and commercial metropolis in an agricultural economy poor in resources and in land transport.

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The reason for the absence of a steel industry in China, or in Shanghai, was the inability of the industry to meet the price of foreign imports. China's total iron ore resources are not inconsiderable, but in the Yangtze basin, where most of the production attempts have been centered, the ore deposits are small and scattered so that their exploitation imposes high costs. Small deposits of coal are also found in scattered localities along the lower Yangtze, but the combined costs of mining and of transport to production centers were too high to permit economic iron or steel making.[24] In the case of Shanghai, not only did these factors operate despite its water connections with the ore and coal deposits along the Yangtze, but as a seaport it could not produce iron or steel from domestic or foreign ore at anything like the price of seaborne imports of foreign iron and steel. Fortunately its maritime connections enabled it to draw on foreign sources for iron and steel and to produce finished metal goods at a cost which still allowed them to compete in the China market with foreign imports of finished metal goods.

Among the large metal-using industries, the vehicle plants (aside from the shipyards of the Kiangnan Arsenal before 1932) imported almost all of their finished steel plates, wire, rods, tubing, and other semi-finished steel products, and most of their cast iron, directly, or indirectly as recastings from iron and steel scrap. The same was true of the plants producing machinery, with their large use of more highly-finished steel products and special steels.[25] The nine large-scale modern shipyards produced primarily river and small coastal craft, the largest ship built up to 1932 being of 11,000 net tons. The steel, production machinery, and most of the engines installed in these ships were imported, and yet it was still apparently possible for the yards to compete in the China market with European, Japanese, or American yards. In 1930 the nine yards turned out a total of 71 ships with a gross tonnage of 17,839, and an average tonnage of 240.[26] There were also about 30 smaller shipyards building Chinese-style wooden craft, from canal sampans to large coastal junks.[27]

Among the other metal-using industries, the food canning and can-producing plants in Shanghai imported all of their tin plate, primarily from the United States.[28] China has significant deposits

[135] China has significant deposits of tin and produced in the 1930's between 3 and 4 per cent of the world's tin ore. It is mined in the southwest tableland of Yünnan and Kwangsi, and in the hills which form the divide between the Hsi and Hsiang River basins (in Kwangsi and Hunan), but no tin was smelted anywhere in China until 1932, when a small plant was established at the largest Chinese mine in Yünnan. The ore, and the small amount of smelted tin were almost entirely exported. China before 1937 was the leading world producer of both tungsten and antimony, and Shanghai was able to fill its own small needs for these alloys entirely from domestic sources. Both ores were mined predominantly in the basins of the Hsiang and Yüan Rivers in Hunan, and over 90 per cent of the total production of both ores was exported, nearly all of it through Shanghai.

Hides for the leather industry in Shanghai, and for export, came to the city, in order of importance, from Manchuria by sea, Tientsin (which acted as the main collecting center for hides from the grazing lands of northwest China) by sea, Shantung (Tsingtao and Tsinan) by both sea and rail, and from Hankow (collecting center for the hides of central China) and Szechuan via the Yangtze. Hides from Kiangsu and Chekiang were considered greatly inferior as well as being very limited in quantity in this animal-poor area of intensive hand agriculture, and accounted for less than 3 per cent of Shanghai's total supply.[29] Rubber was of course entirely imported.

Shanghai's wood-working, furniture, and paper industries were almost entirely dependent on imported wood from Canada, the United States, and Scandinavia. The delta area produces no wood at all, and the nearest commercially usable stands are in the hills along the Chientang River south and west of Hangchow, but they are small and of poor quality. About one-tenth of the quantity of foreign imports came in by junk from south China, particularly from Foochow, the lumber center of the China coast by virtue of the heavily wooded slopes of the Wu Yi and Ta Yü ranges, too steep for agriculture and not crossed by any important transport routes.[30]

The two leading chemical industries, soap and matches, provide in the sources of their raw materials an illustration of Shanghai's position as a manufacturing center in an otherwise pre-industrial economy. There were about fifty soap factories in Shanghai in the